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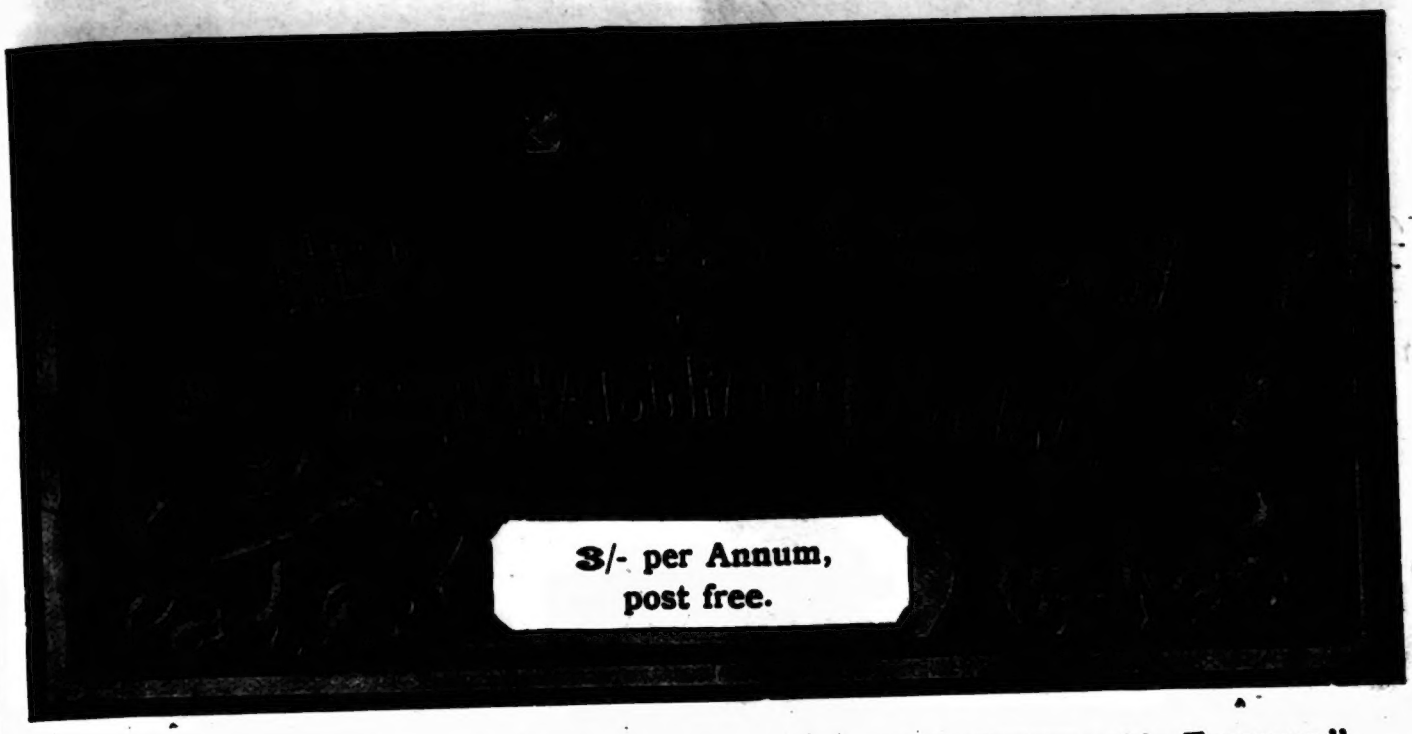

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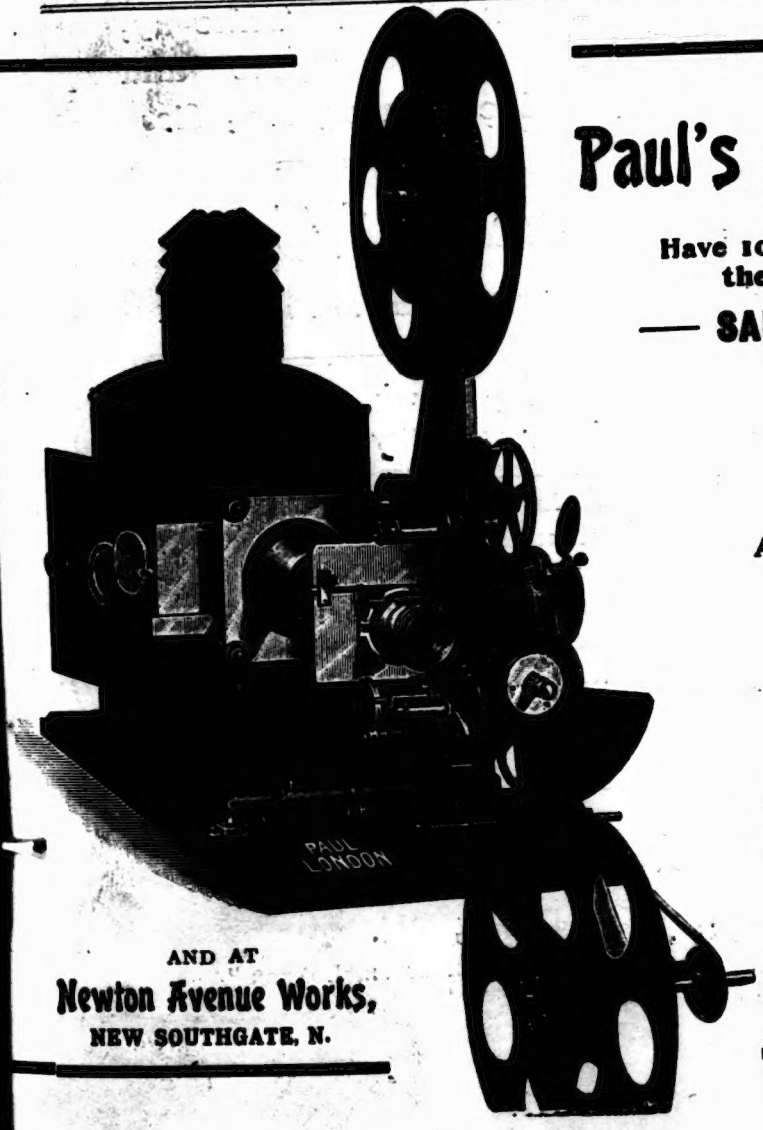

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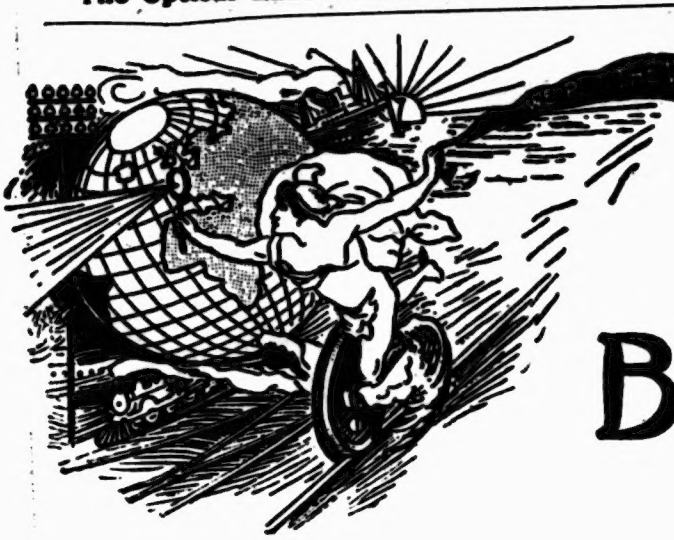

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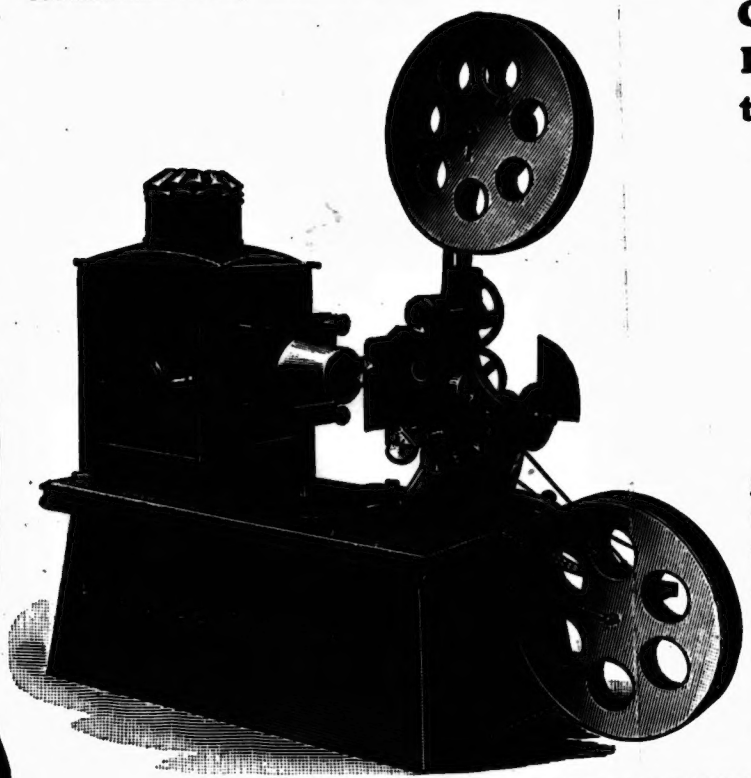

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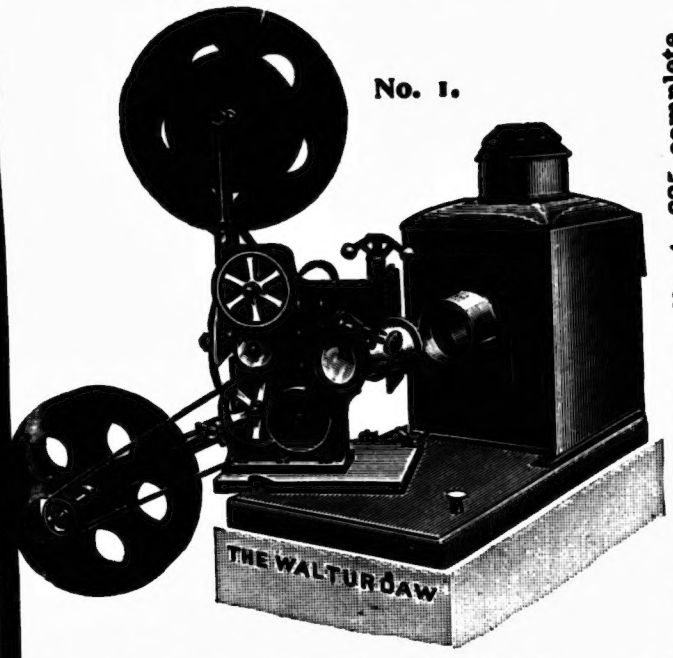

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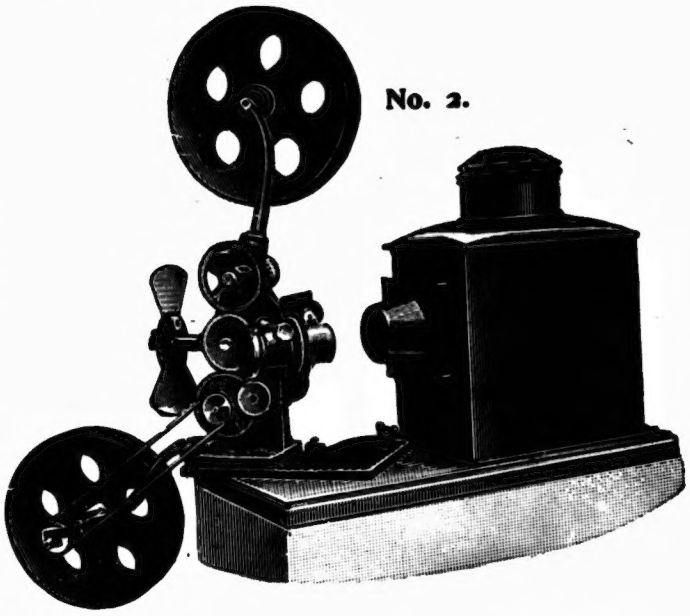

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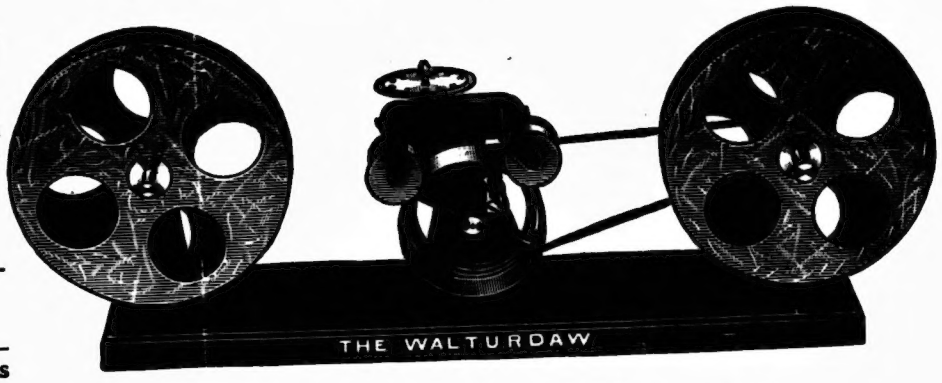

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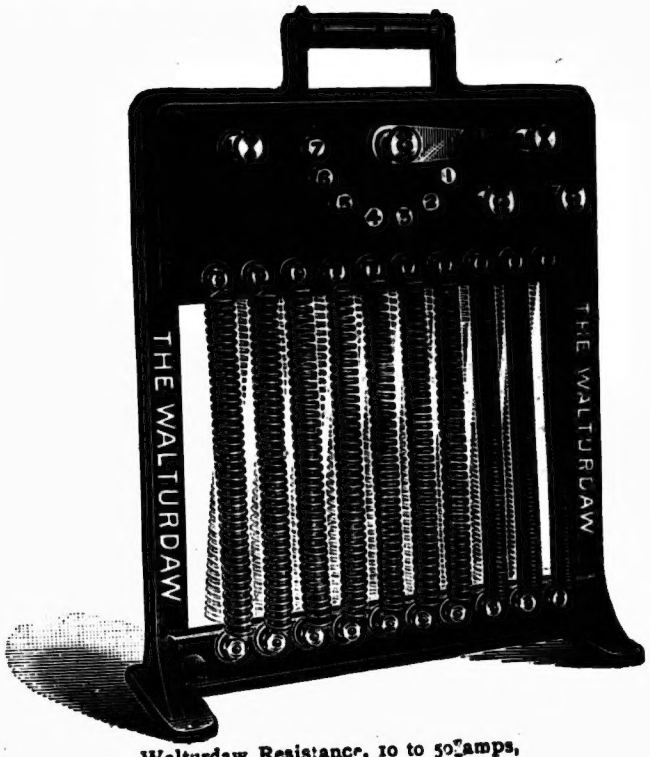

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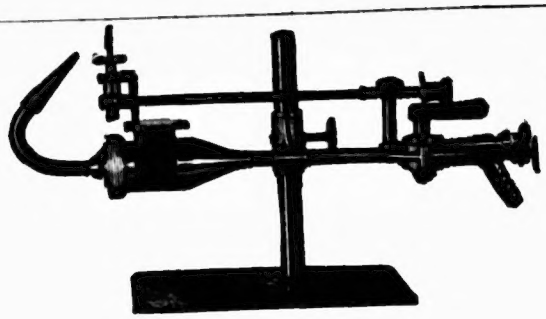

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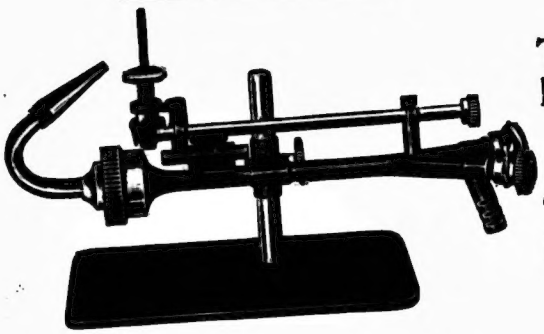

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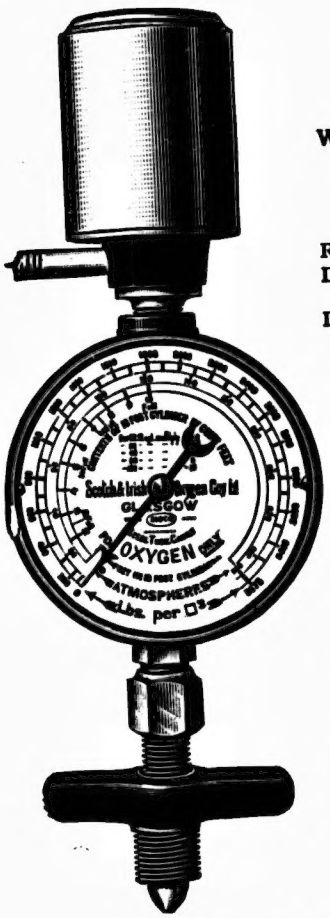

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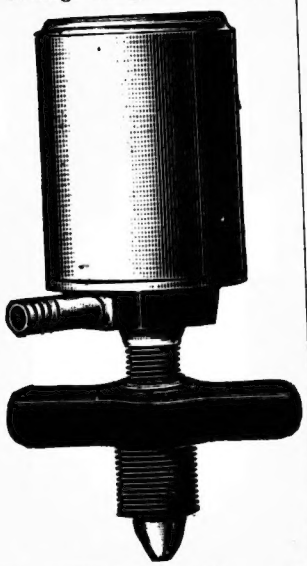

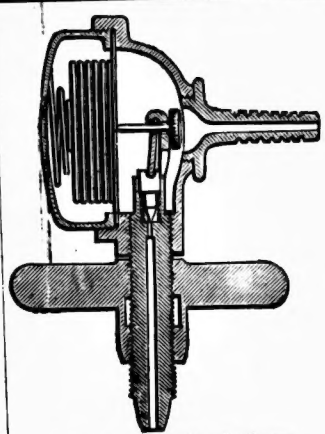

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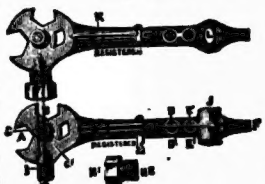

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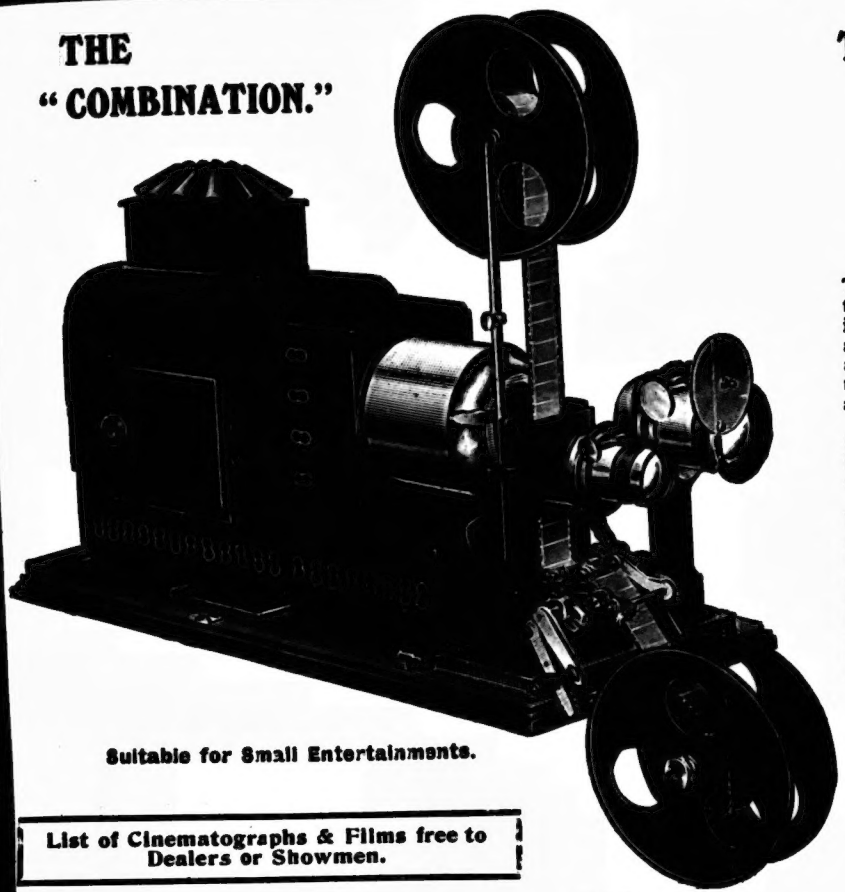

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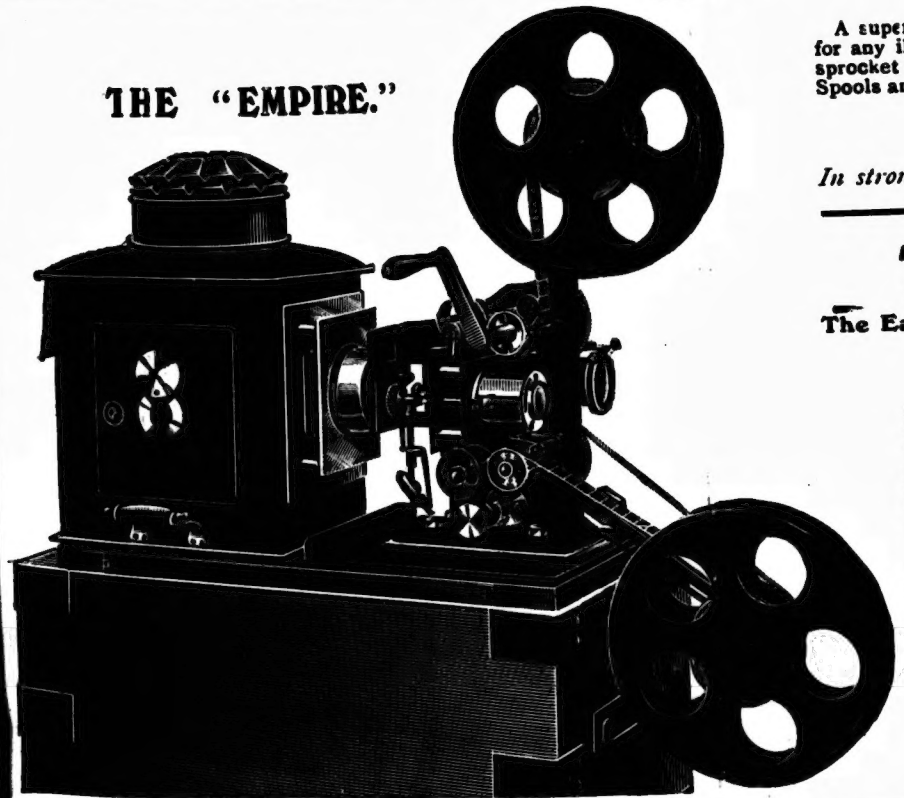

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THIS MACHINE will fill a space between those known as toys and the more elaborate professional instruments. It is well adapted to give an entertainment at home, or before a small audience. There is very little noise in working, and as it is fitted with re-winding gear, there is no danger to be apprehended from having a lot of loose film lying about.

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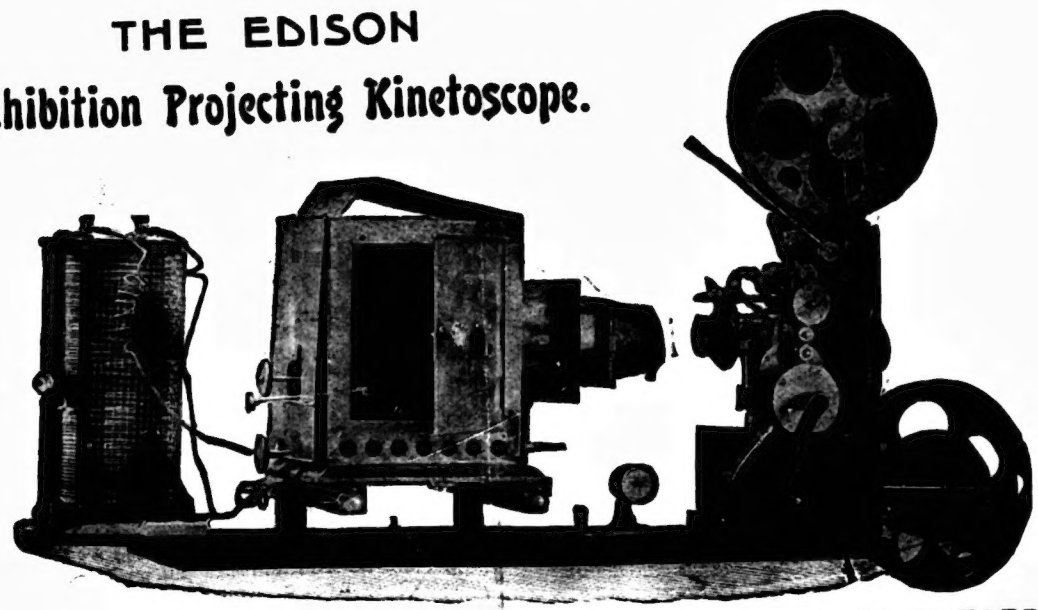

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EDISON FILMS are perfect in detail. No effort or expense is spared to produce **the Best.** The strictest attention is paid to details, situations, action, and surroundings. Below are a few of our latest subjects. Write for illustrated descriptions.

THE TRAIN WRECKERS. A great film, showing the attempt of train wreckers to wreck a railroad train. Signalman's daughter saves train from destruction, wreckers escaping on an inspection car. They are caught by enginemen on a locomotive and killed. This picture is absolutely perfect as to detail, action, and photographic quality, and includes features which certainly are new departures in moving pictures. **Length 815 feet.**

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WHETHER from election matters, or from what other cause we are unable to determine, but the fact remains that there has been a very decided lull in trade matters during January. Very few films have been produced, and very little is the trade news we have to chronicle. Although business has been slow at home, we learn that many a new field has been opened up abroad. Egypt and China are being catered for by more than one firm, and at Monte Carlo the living picture shows have been a big attraction. India has been full of gaiety, and the cinematograph has played an important part in entertaining natives and the many visitors who have followed the travels of the Prince and Princess of Wales. The successful trading and exhibiting in Russia has for a while been stopped; but France, Germany, and Belgium still look to the lantern to keep up the popularity of their pleasure resorts.

VERY interesting is a comparison of the pros and cons urged by the writers of the series of articles which start this month on the various illuminants used for optical projection. Each article is from the pen of an authority, and our readers have the advantage of being able to weigh the evidence for and against each, and determine which is best adapted for their particular purpose. We have arranged an interesting programme of similar technical articles in future numbers, and shall welcome suggestions from our readers.

Two forces which are unique in the annals of politics have been brought to bear upon the General Election. The motor car has been extensively used, and many curious events have happened in connection therewith. One candidate who advocated protection was accused of riding in a French made car; many a Liberal

took advantage of cars used in the interest of Conservative candidates, and many a rider who entered a motor for the first time refused to vote after driving to the poll at a break-neck speed, his argument being that his "confidence had been severely shaken in a man who owned such a 'devil vehicle.'"

BUT to us it is of greater interest to see the use the optical lantern has been put to induce the elector to go to the poll. In all parts of the United Kingdom—both indoor and outdoor—screens have been erected, and firms who let apparatus on hire have had a sensational and profitable increase of business, and were justified in raising their charges above the ordinary rates. Many were the curious results through political enthusiasts running the lantern under their own control. In one case, a screen of very coarse material was erected over the forecourt of a house, and the slides projected from a window at the back, but it was only by a liberal use of oil that the material was made sufficiently transparent to allow a picture to be seen.

Then, again, the screen was out of proportion, being twice as wide as it was high. This difficulty was got over by using two lanterns, and special slides were made to read side by side. Local advertisements were interspersed with thrilling election announcements. Unfortunately, the two operators did not run the slides synchronously, and many were the curious legends that appeared to the startled spectators. For instance, there would only be half the political announcement and the other half advertisements, such as the following:—

WHAT THE	CLARK'S
LABOUR	CORSETS
PARTY	FOR ALL
WANTS?	CLASSES

The latter half should have read "The Commonweal before Vested Interests."

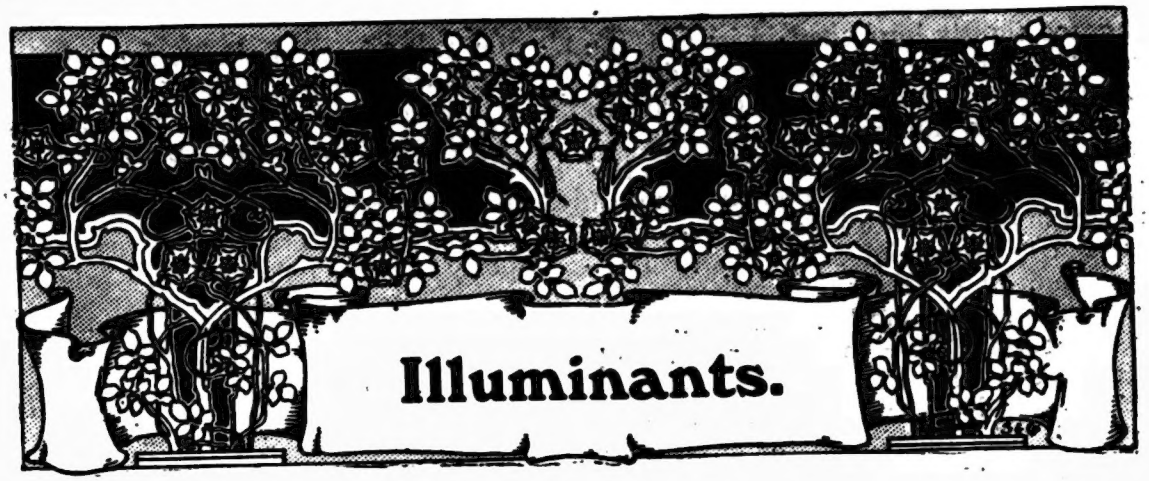
PALMER'S	DESERVES
SPRING	THE WORKING
BEDSTEADS	MAN'S VOTE

Here the first slide should have read "The Liberal Party." Finally, they became so complicated and absurd that only one lantern was used and a fresh set of slides employed, and the enthusiast boasts that the show won the election of the candidate in whose interest he worked!

"DANGERS OF THE BIOSCOPE."—Thus runs the heading in the new Liberal paper, *The Tribune*, of January 27th, and once again the nervous individual has a false impression thrust on him as to the danger of attending an entertainment, at which living pictures form a feature. Is it not time that the penny-a-liner found a new source for his scares? Has he not done sufficient harm to one of the most popular amusements of the day? Perhaps there is more excuse for the writer of the following paragraph from the fact that "the defendant used to help the plaintiff with the films as a friend." This may have conveyed the impression that the "gun cotton" was handled by a non-efficient to the danger of the public. Here is the extract:—

> Yesterday, some remarkable revelations were made during the course of the hearing in the Shoreditch County Court, before Judge Smyly, of an action to recover the amount alleged to be due for lessons given in bioscope operating. The plaintiff was Thos. Chas. Field, of Culford Grove, Kingsland, a bioscope operator at the Palace Theatre of Varieties, at Bow, and he sued Mr. Maries, of Holly Street, Dalston, also a bioscope operator, now engaged by Messrs. Moss and Stoll, to recover £2 18s., balance due for lessons on the bioscope.
>
> His Honour: The spools are made of gun cotton, are they not, and therefore very dangerous?—Plaintiff: Yes; at one time we were allowed to take the films off and throw them loose into a basket, but the L.C.C. have now framed a fresh set of rules which compels us to wind up the spools as the film is finished with. There is no danger with a person who understands his work.
>
> For the defence, it was submitted that Mr. Maries used to help the plaintiff as a friend, and the fact that he had now obtained a berth as an operator was due to his having received lessons otherwise than from the plaintiff.
>
> His Honour ultimately found a verdict for the amount claimed with costs.

BRITISH MUSEUM



No 1.—LIMELIGHT.

By GEORGE W. GWYER.

THERE is no doubt that for optical projection limelight is nearer an ideal standard, as a luminant, than anything which has up to the present been discovered. Its many advantages, when carefully considered, render it very difficult to outrival, and even its most formidable adversary, the electric arc light, has of late been forced to concede it some important points of undoubted superiority, among which may be mentioned its ready adaptability to almost any optical system, from the complicated oxy-hydrogen microscope down to the humble stage focus lantern, with its simple single plano-convex lens or bulls-eye.

Let us consider, in actual practice, what these points are, and for this purpose we will suppose a lanternist of limited means, with a cheap oil lantern, after a time realises that something more brilliant and yielding crisper definition than an oil lamp is necessary to do justice to his pictures. Here the limelight fills the void at the lowest possible increase of cost; no alteration to the optical system being really necessary to enable him to give a fair exhibition. The ordinary double plano-convex condenser fitted to the oil lantern gives very good results where long focus front objectives are not required to be used, and a scale of illumination of from 150 to 1500 c.p. is easily obtained. I am not aware of any other light of which the same can be said.

The electric arc is much more costly in every way, has not the steadiness, and considerable alteration to the optical system is required to obtain good results. Even for the cinematograph it is not so superior to a really good limelight as is generally supposed, as it must be borne in mind that powerful arc lights have a very much greater local intensity of heat than the oxy-hydrogen, and, as both the heat and light rays are brought very nearly to a focus upon the film, it becomes necessary to have recourse to an alum or water bath to avoid injury to the films. This again entails great loss of light, both by absorbtion and reflection, as anyone may judge for themselves by removing the bath and observing the effect upon the screen. They will be surprised to find the loss of light is serious, indeed, so much so, that it becomes questionable if the gain is worth the trouble and expense involved.

The electric light also requires attention and cannot be left to take care of itself, any more than the oxy-hydrogen; the carbons require constant feeding, much the same as the limes require turning, so that in personal attention there is no material difference between either. Both, also, are liable to crack the condensers, carbons spit off hot fragments, and limes crack if not kept dry and warmed before turning up the light. In over 30 years experience in the use of the limelight I do not remember having cracked more than two condensers—one of these went through

being too tightly burnished in its cell, the other through a door being suddenly opened letting in a draught of cold air to the back of the lantern.

The next point for consideration is the danger, in which respect the early forms of limelight in the hands of inexperienced persons gained an unenviable reputation. This was no fault of the light, but rather of the manufacturers who did not take sufficient care to ascertain that the apparatus sold was really safe in the hands of the average operator—gas bags and saturators were of course the chief offenders—but even then I do not know of any serious or fatal accident arising from their use. Their worst fault was the loud bang they made if a fire back occurred in either bag or saturator, which was disagreeable and startling to those near, and naturally made them regard the limelight with distrust.

At the present day, I am glad to say, no apprehension with the limelight need be felt—cylinders under the new regulations of the Board of Trade as supplied by the Brin Co., are absolutely reliable—no possible precautions being omitted to ensure the most perfect safety to the users under all conditions.

Saturators, if properly constructed, are also perfectly safe, and may even be upset with impunity whilst in use, without catching fire or doing damage. Popping in the tubes can always be avoided when putting out the light by first turning off the saturated gas, and allowing the pure oxygen to remain on until the lime *ceases* to be *incandescent*—all the other taps on saturator, and cylinder valve may then be turned off without the slightest chance of a "pop" or mishap of any kind, as by this method of extinguishing the light all combustible gas is kept burning at the nipple of the jet until the pure oxygen has cleared the tubes of it and at the same time blown the lime cold, so that should any remain in any of the tubes, and a tap be turned on again by accident, the cold lime would not ignite it.

In concluding my observations upon the limelight, I would point out that the precautions mentioned when using saturators are to avoid any possibility of "pops," as the saturators themselves are, if properly constructed, perfectly safe, and the only thing to remember is of course *never* to charge them within six feet of a naked flame.

The next form of luminant to be considered is acetylene; portability is about its only claim; it is very little superior in point of illumination to a good 4-wick oil lamp, but the necessity of using several burners to obtain sufficient power make it, like the oil lamp, open to the same objections that attend all multiple forms of luminant, viz., spherical aberration, which means serious loss of marginal definition and inferiority of definition, and brilliancy over the whole picture, as we cannot ignore the fact that a condenser is only capable of properly bringing light to a focus from a single spot or point, and the smaller and more intense the spot, the better the illumination. This fact alone shows that it is hopeless to expect from acetylene anything like the perfection obtainable with oxy-hydrogen.

Upon the score of safety, the awkward fact remains that already two serious and fatal accidents have attended its use. Generators of any size should always be placed in a garden or yard away from the house or room in which the exhibition is held, and on no account should a light be applied to the burners until all the atmospheric air has been blown entirely out of the tubes, as it must never be forgotten that a mixture of acetylene gas and atmospheric air or oxygen constitutes a very dangerous and powerful explosive; it is therefore very necessary to see that all air has been expelled from the tubes before attempting to light up.

(Next month an illustrated article on Acetylene Light will appear.)

THE OPTICAL LANTERN AS AN AID TO EDUCATION.

By J. A. Waterston.

MANY people accept the scientific marvels of the age with equanimity, and possibly include the optical lantern in their mental catalogue of the inventions of the nineteenth century. Should any such read these lines, it will be useful to note that the "magic lantern," as it was first named, is generally regarded as the discovery of Athanasius Kircher, who died in 1680. Some authorities would even have us believe that it was known four hundred years earlier, but, be this as it may, the knowledge of the fundamental facts of optical projection is of undoubted antiquity.

The "wizards" of those early days were very successful in playing upon the fears and credulity of the ignorant and superstitious, and to the victims it must have seemed a supernatural manifestation, when they were suddenly confronted with the image of an enemy or relative who had departed this life, apparently rising out of a cloud of smoke which emanated from the inevitable brazier. No wonder the "Wizard" was credited with dealings with the Devil, and frequently reaped a golden harvest through his cunning use of superior knowledge. This was the first educational use to which the lantern was put, namely, to inculcate amongst the ignorant fears of the supernatural.

As education progressed, and men's minds were less susceptible to occult influences, ghost raising degenerated into a profit making entertainment, and, what first appalled, became a staple source of laughter.

Although this class of performance thirty or forty years ago was mainly for the amusement of the public, the tendency was also to bring the educational side to the front. The direct attempts at instruction were at first few, and ill-painted, inartistic slides, representing scripture and temperance subjects, formed the main part of a none too enlivening "entertainment," which usually concluded with a few comic slides. In the smaller towns nothing better than this was for a long time attempted.

There were, of course exceptions, and one's thoughts naturally turn to the old Polytechnic, that Mecca of the sightseer, and undoubtedly the pioneer of the instructive lecture. It was here, about the year 1865, that Professor Pepper's Ghost Illusion was produced, and it was one of the most successful entertainment novelties which had up to that time been seen, although the lantern was only used to throw light on the subject. In 1879 we find the names of Mr. B. J. Malden, Mr. Bridgman Smith, Mr. E. H. Wilkie, Mr. W. H. Golding, Mr. J. L. King, and Mr. W. Hellis on the Polytechnic programme as users of the lantern in connection with

their popular lectures, and these undoubtedly were the men who showed how useful the optical lantern could be made to demonstrate scientific problems, and optically illustrate dry and unpalatable subjects in a manner which gave them a charm and interest not to be obtained by other means. The seed disseminated at the Polytechnic in the seventies quickly bore fruit, and lantern lectures on geographical, astronomical, and other scientific subjects, illustrated by single, biunial, and triunial lanterns, were delivered at the various scientific societies (such as the Birkbeck and the London Institute) which were so much in vogue about this period.

It is interesting to compare the state of things at that time with what is taking place at the present day. The instrument as used for lectures was then a novelty and the main attraction; "Have you seen the dissolving views?" was as pointed an enquiry as "Have you seen the Shah?" There is no question to our mind but that it was overdone, and finally became moribund; but with the advance of education and the huge improvements in the apparatus it has now risen to a high place in our educational necessities.

THE LANTERN IN EVENING SCHOOLS.

It is an accepted fact that what is visually demonstrated to the student, either in the shape of experiment or pictorial representation, is more easily understood and more deeply impressed on his memory. Recognising this fundamental truth, the London School Board and later the Education Department of the London County Council were not long in adopting the optical lantern as a means of imparting instruction to their scholars, and the following scheme was evolved for the fortnightly circulation of lantern slides to evening schools during the winter months.

Each head teacher is asked beforehand to give particulars of a lesson which he wishes to illustrate, and a scheme of rotation is drawn up whereby each school gets fourteen different sets of slides during the season, with accompanying explanatory notes. For the 1905-6 Session 154 evening schools have availed themselves of the scheme, divided into eleven groups of fourteen schools to each group. Geography (specialised or general) being the only subject at present dealt with.

The teaching of geography by the aid of the lantern is divided as follows: Three groups of schools have chosen geography of the British Isles, three more that of the Colonies, three others are interested in the geography of Europe, and the remaining two groups are to be pictorially educated in general geography. The titles of the sets of slides illustrating the British Isles include "Interesting Places in English History," "Round Britain in a Yacht," "From the Thames to the Tweed," "Old Abbeys and Castles," etc. Some of the Colonial titles are as follows: "South Africa," "Life in India," "Antipodes and Back," "Canada," "New Zealand," "Ceylon and Tea Culture," etc. The European and general sets are equally representative according to their series, some of the titles being "A Thousand Miles up the Congo," "Round the World in Ninety Minutes," "North Pole," "Japan and the Japanese," "America to the Holy Land," etc.

The work which is undertaken in this direction cannot fail to bring home to the rising generation a true sense of the vastness of the world, and will, perhaps, prevent the formation of insular prejudices, and also engender a proper spirit of pride in the greatness and wealth of our Empire beyond the seas.

The total number of slides which rotate is 14,500; but the system is not quite satisfactory from the teacher's point of view, as he would prefer that every set he receives should have some bearing on his own particular scheme of lessons. The L.C.C. Education Department very wisely encourage individualism amongst the responsible heads of schools, and are endeavouring to arrange a workable scheme for future years, which will more efficiently meet the wishes of all concerned.

L.C.C. DAY SCHOOLS.

The head masters of these schools are able, on application, to procure any particular set of slides required, and those illustrating the scientific subjects, which form so large a part of the daily curriculum, are much in request and greatly appreciated.

Here, again, the whole question of the supply of educational lantern slides is under consideration, and surely this is a good opportunity for enterprising firms to endeavour to influence the L.C.C. to supplement the useful work done by the introduction of the kinematograph, with its lifelike representation of natural phenomena. In all schools of any size, whether devoted to general or highly scientific instruction, an optical lantern should be provided, and definite knowledge of its use should be conveyed to those in charge.

The concensus of opinion amongst teachers of every grade seems to be that drawn diagrams should accompany the lecture, so that the student can make his notes in a good light. Then the projection of the slides can be utilised to further impress the whole more vividly on the memory. The professors, who impart knowledge to the students at our medical schools throughout the country, illustrate their lectures on anatomy and physiology with the lantern, and all agree that a more valuable medium cannot be found. And, again, at our leading colleges, the lantern plays an important part in the higher grades of education.

To be continued.

THE CINEMATOGRAPH AND THE FINANCIAL WORLD.

A FEW weeks ago, at a town on the shores of Leman, opposite Mont Blanc, a cinematograph show took place which opens a new era in the fortunes of the instrument.

In the first place, the room chosen for the exhibition was one of the most luxurious drawing-rooms of the finest hotels in Switzerland—the Beau Rivage Hotel, and it was here all the bankers, financiers, and stockbrokers of Geneva were invited. It was not for pleasure or amusement that the show was given, but to teach and prove to those assembled the importance of a new invention patented in every country, which would completely revolutionise the bottling industry. It showed machines already working in America, and faithfully proved their existence in great number, and the rapidity of their action and all their advantages over other processes.

The inventor gave proof of considerable talent in the mechanical construction of his machine; but we might suggest that he has shown more intelligence when travelling in other countries, by carrying with him a cinematograph and a small quantity of films. This enables him in every hotel where he stays to invite, in advance, all the well-known people to be present, when he can convince them, by the use of living pictures, of the value of his patent. There is no expense for carriage, no waste of time, and the result gives absolute proof of the existence and utility in working the machine, of which the patents are for sale.

In a few days the financiers of Spain will meet at Madrid, of Switzerland at Geneva, of England at London, etc., and the financial gatherings will grow in each country as by magic. Here is certainly an excellent original idea. The man who actually founds the basis of a colossal fortune with so simple a means, which is open to everybody and comes so naturally to the mind, merits his threefold rich destiny. Its effect is to open a new and profitable suggestion for making new inventions known to the financial world. How many things could one bring before the eyes of interested persons in this way? What industrial, commercial or artistic works could be understood by inspection or by views with the necessary movement and colour. The cinematograph alone can give the form, movement, colour, or the true grandeur to anything; or, if required, it can also reproduce it in relief.

This is a new means for advocating an invention or discovery, and is a new application of the cinematograph. The banker, stock broker, the outsider, shareholder, or sleeping partner need not now part with their money, or that of their clients, without being able to judge by the cinematograph the state of affairs in question, and in this way the living pictures should prevent repetition of public company scandals with which the money market has many times been the bugbear.

THE MONTH'S NEW FILMS.

MANUFACTURERS are vieing with one another in producing attractive films, and the striking feature this month is the diversity of subjects. The amount of ingenuity displayed in this direction is remarkable. Several firms are drawing upon India, China, and Japan for their pictures, but in most cases home scenes of domestic interest, with a dash of adventure and a touch of the supernatural, are served up with excellent effect. On the whole we may safely say that this months' subjects, although scarce in point of quantity, are a distinct advance upon what have gone before.

BOXING BY BIOSCOPE, which we believe is being run at the Oxford Music Hall by Mr. W. F. Jury's Imperial Bioscope, is certainly a wonderful collection of pictures. It is said that there is a mile and a half of film, containing 182,369 pictures, and these are certainly of a high grade, and show that careful thought and arrangement was first given to the matter by the camera man. The subject of the views is the famous boxing contest between Jimmy Britt, the conqueror of Jabez White, and Battling Nelson. The pictures include the arrival of the spectators, a quarrel about the referee, the combatants entering the ring, the contest of eighteen rounds, and the "knock out." Each blow is discernible, and in America the display excited so much enthusiasm that members of the audience began to box with each other. The performance runs for about an hour and a half, and is distinctly improved by the able descriptions of the scenes by Mr. Monahan.

THE Charles Urban Trading Co. have a further series of the Vitagraph Co.'s films ready for delivery. "The Escape from Sing Sing Prison," dealing with the sufferings and subsequent escape of two captives from prison, which is effected by killing a guard and overpowering a warder, are very sensational. Then we have the alarm, pursuit, and capture, the final scene occurring in the home of one of the convicts, where a determined defence ends in the death of the convict's little daughter. The keynote is essentially tragedy, but pathos and humour are also freely interspersed. "The adventures of Raffles," based on E. W. Hornung's popular story, is a 900 feet film quite novel in conception, and contains sufficient sensationalism to satisfy the most ardent seeker after thrills. Amongst other productions of this firm, we would draw attention to "In Japan," "The Sherborne Pageant," "Sights in New Zealand," and several new films in the natural history subjects.

MR. R. W. PAUL continues to find new and interesting subjects to place before his patrons. In addition to a new series of Indian pictures illustrating the "Prince and Princess of Wales' Visit to Gwalior," this firm are placing on the market additional subjects in their trick and mystic series. "The Visions of an Opium Smoker," and "The Conjuring Clown" are amongst the most successful of the set, and should prove successful for some time to come. The general excellence of this firm's productions is fully maintained in these films.

MESSRS. CRICKS & SHARP have several new subjects this month, amongst which may be particularised "Night Duty, or a Policeman's Experiences," which is a film full of bustle and excitement, and, if some of the incidents are overdrawn, they come upon one with such startling rapidity as to give no time to criticise, but leave only a feeling of wonder at the way the various incidents are carried out. This should prove a ready seller amongst showmen requiring a film that is certain to go down with almost every class of audience. Amongst this firm's new humorous films may be mentioned "A Comic Duel," and "A Portrait for Nothing."

THE Walturdaw Co. have secured a large contract for a series of pictures on "Indian Scenes and Life," for which they have just sent out to India a full staff, with an entire developing plant, so that the films will be completed where the pictures are taken.

THE KINOKAM.

An Ingenious Invention for Recording and Reproducing Animated Pictures.

MANY times have we emphasised the demand that exists for a cheap form of a home moving picture machine. In almost every family there is an amateur photographer who chronicles the peculiar events in that family — new arrivals, weddings, anniversaries, summer outings, and other functions of more or less importance to those interested, are duly photographed and put away in the family album for future reference. Something more than a "speaking" likeness has been desired, and now it will be possible to provide for future reference and inspection "living" likenesses of family affairs.

The columns of THE OPTICAL LANTERN AND CINEMATOGRAPH JOURNAL are at all times open for the purpose of publishing descriptions of apparatus of an original or interesting nature pertaining to the lantern or cinematograph industries; it is, therefore, with more than usual pleasure that we devote a portion of our space this month to a review of the Kinokam, a novel and original little machine, which, as its name implies, is a combination of the kinetoscope and camera, and contains the principles involved in recording and reproducing animated pictures.

Far from being a cumbersome and complicated contrivance, it is light and portable, only weighing a few ounces, and can be carried in an ordinary top-coat pocket, being contained in a box six inches square and three-quarters of an

inch thick. The shutter and mechanism for operating are included in this space, and actuated by a small handle which projects at the side. The manipulation is simple, and anyone with but the crudest idea of the photographic art may soon become proficient enough to use the Kinokam for both pleasure and instruction in taking novel photographs and reproducing them in an animated form. An important feature is that the price is so low that it is within the reach of all, and at the same time it is an actual practicable instrument that is bound to give satisfactory results.

THE KINOKAM.

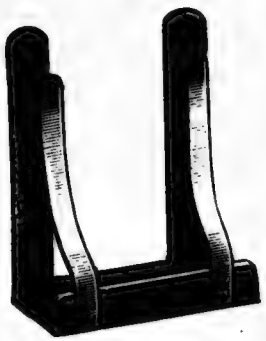
The following is a brief description of what the Kinokam really is:—On the top side is an oblong block, which contains the photographic lens, the finder, and also a magnifying glass. The latter is so arranged that the block which holds it can be turned around and the camera immediately converted into a viewing machine. The shutter is removed, and the print of the picture which has been taken, when placed on the mechanism inside, can be revolved by the little handle, and, by looking through the magnifying glass, the pictures are enlarged and brought out clearly, showing the movements of the object which has been "Kinokamed." A very important feature of the Kinokam is that the picture is taken and reproduced again on the same machine. No extra mechanism is necessary.

There is no limit to the subjects that can be taken on this machine, each disc film allowing twenty-four exposures, the object being taken in a variety of movements or twenty-four single snapshots can be taken on one film, and when developed, the magnifying glass enlarges the pictures and brings them out clearly with surprising detail in an animated form. There is no difficult or intricate parts about the mechanism to get easily out of order, everything connected with the machine is simplicity itself, and if the general instructions are carried out, there is no danger of added expense for repairs. Negatives may be taken either by long or short exposure, regulated by the speed with which the

handle at the side is turned. An ingenious automatic check is used for stopping the gears after the twenty-four exposures are made, which fully prevents any duplicate exposure of the disc films, thus when the handle has made the necessary revolutions it is automatically locked.

The Kinokam may be used and attached to any standard tripod by the aid of a small holder, or a record can be taken by holding the machine against the body of the operator, but naturally the best results are obtained by the use of a tripod, the picture being steadier, whilst the chances of failure and waste of film are very much diminished.

In this brief description of the Kinokam we have endeavoured to show the capacity and objects of the invention, and we hope we have been sufficiently intelligible to convey to our readers the idea that the Kinokam is an instrument by which considerable enjoyment may be procured by



HEAD FOR HOLDING THE KINOKAM.

either young or old, and an opportunity given for some practical idea to be conveyed to the amateur of the manner in which a film is prepared for our great moving picture exhibitions. The inventor "conceived the idea of putting upon the market a small, compact, cheap, and complete machine, in the shape of a hand camera, to meet the demand for a moving picture apparatus that anyone could manipulate," and we must congratulate him upon the success of his effort; and we can safely say that all who venture to test the invention will have their full money's worth in amusement and increase of technical knowledge of the mysteries of preparing animated pictures, whilst we are satisfied the invention will stimulate the public interest still further in this popular form of entertainment. The Kinokam Co., Savoy House, 115, Strand, London, W.C., are the makers of the Kinokam, from whom all further particulars may be obtained.

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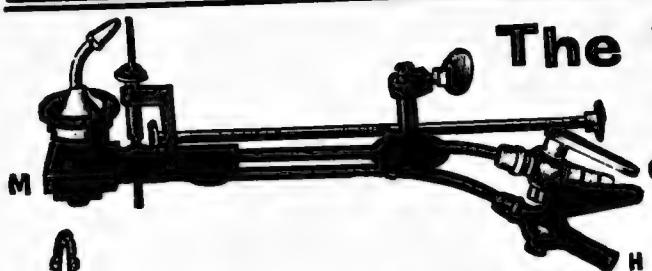

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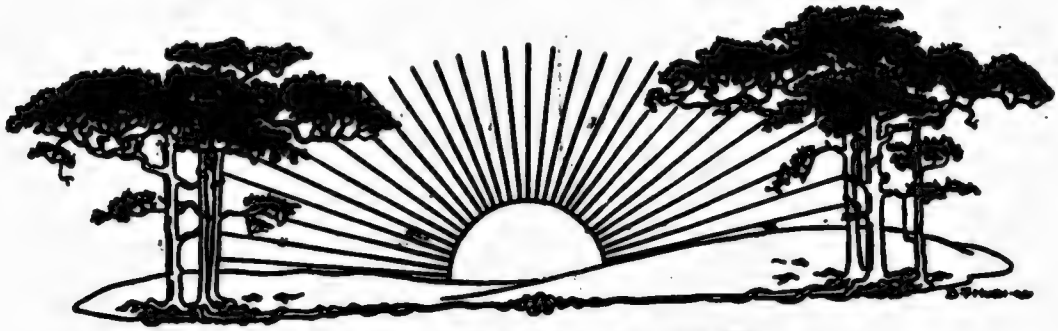

ROUND AND ABOUT.

Belfast Y.M.C.A. Camera Club.

At the January meeting an illustrated lecture entitled "Portraiture," by Mr. Harold Baker, kindly lent by the Royal Photographic Society, London, to which the Belfast Y.M.C.A. Camera Club has been affiliated, was given. Almost every point in connection with "portraiture" was commented upon and illustrated by means of lantern slides. Some striking results were shown caused by the use of light and dark backgrounds, and it was explained that the background should be chosen to suit the sitter as well as the lighting.

Sunday Cinematography and the L.C.C.

Mr. Dolman, at the last meeting, asked whether the Theatres and Music Halls Committee had taken into consideration the fact that, at the present time, no provision was made for the inspection of cinematograph entertainments on Sundays? He understood that cinematograph entertainments were more numerous in London on Sunday evenings than on any other day of the week. Mr. Yates replied that this question had been on many occasions before the Committee, and, after communicating with the licensees of the halls, it had been decided that the fixed boxes, where the cinematograph was continually used, should be inspected occasionally, and that, where such exhibitions were only given on Sunday evenings, there should be inspection the last thing on the previous Saturday night.

The Lantern

Was used by the *Daily Mail* and *Daily Chronicle* during the recent election with very effective results. In advertising them, the former said:—"The greatest lantern display on record will be organised by the *Daily Mail* in Aldwych, where it will be possible for an immense crowd to read the figures at a distance of three hundred yards. For this purpose a large screen of sixty by thirty feet wide has been erected on the wall by the Waldorf Theatre. The election results will be shown on this within thirty seconds of their receipt in London, special telephonic communication being arranged between the *Daily Mail* office and the operating box in Aldwych. During the interval between the results the crowd will be entertained by the Urbanora Animated Pictures, and giant gramophones, lent by the Gramophone and Typewriter Company, will also perform. In addition, lantern displays will be given at Denmark Hill, Mile End Road, and Islington."

Cinematography in Colours.

Many rumours having been in circulation in regard to the projection of animated pictures in colours, a good deal of interest may be expected to be taken in a demonstration of cinematography in colours which will be given this (Friday) evening at the Royal Institution, London, before Lord Rayleigh and other scientific men. Captain Lascelles Davidson, who will undertake the demonstration of the method worked out by himself, is one of the exhibitors in the present exhibition of colour photography now open at these offices, where his "snapshots in colour" have attracted a considerable amount of attention and speculation. The chief merit of his achievement, of the success of which the public will thus have an opportunity of judging, lies, we believe, in the means taken to secure the negative colour-records with the necessary rapidity. The projection methods will be familiar to those who have followed Captain Davidson's patents of recent dates.—*British Journal of Photography.*

Success in Bournemouth.

That Mr. T. J. West's exhibitions of living pictures, at the Shaftesbury Hall, are becoming more popular each year, has recently been shown by the larger number of people who attended his shows during the winter session that has just closed, as compared with the number passing the turnstile last season. This success may, perhaps, be partially accounted for by the fact that Mr. West had on view some of his own products, obtained during his recent visit to New Zealand, illustrating, in a most comprehensive manner, the lives and customs of the people in that distant land. We understand that Lord Roberts has evinced considerable interest in these pictures, and a Royal command is expected for their display at no distant date. In visiting Mr. West's exhibitions, one feels sure of seeing only the best subjects, projected in an accurate and skilful manner. Mr. G. H. Philp, in whose hands this share of the responsibilities fall, never fails to carry out the work in a technically perfect and painstaking manner.

The "Dissolved Acetylene" Fallacy.

SHOWMEN are evidently eager to learn more of a statement which recently appeared in the London press with regard to acetylene being used for projection purposes in theatres and music halls, for we have already received enquiries for information on the subject.

Our attention was first drawn to the matter by the following paragraph, which appeared in *The Daily Telegraph*:

> In connection with cinematograph entertainments to be given in London music-halls, a form of acetylene, known as "dissolved acetylene," is proposed. The use of acetylene gas for the purposes referred to is prohibited by the London County Council's regulations; but the Theatre and Music Halls Committee are advised that the use of "dissolved acetylene," which has become common in Paris, is not attended with any risk of a special or peculiar nature, provided it is contained in vessels which are satisfactory for the purpose. It is consequently proposed to amend the existing regulations.

This paragraph evidently originated from the recommendation of the Theatres and Music Halls Committee of the London County Council: that an alteration of the by-laws be made to permit "dissolved acetylene" being used in buildings under the control of the committee, provided the gas is not allowed to come into contact with copper or copper alloys. This recommendation was adopted.

It is interesting to note what the regulations imposed by the London County Council respecting the use of acetylene gas in theatres and music halls licensed by the Council really are. Besides the restrictions with regard to the fittings, we find the following are given as general egulations:—

GENERAL REGULATIONS.

1.—Under no circumstances will the production or use of highly compressed or liquified acetylene be permitted. (Such procedure is illegal.) The gas must be generated and stored at pressure sufficient only for driving it through the burner. The pressure shall not exceed 20 inches in the generator, or 5 inches in the holder or service pipes.

2.—The gas shall not be mixed with oxygen or with atmospheric air before it reaches the burner. (This is illegal.)

3.—Every apparatus which is used for generating or storing acetylene gas shall be licensed by the Council after it has been tested and approved by an expert, and will be subject to examination by a responsible officer of the Council.

4.—Every such apparatus shall be placed in a building outside that in which the gas is used.

5.—Such outbuilding shall be separated as far as possible from inhabited buildings, and shall be well ventilated. All usual precautions shall be taken to prevent escape of the gas and firing of the same in the generating room.

6.—No person shall have charge of the apparatus unless he has been properly instructed in its management.

7.—The gas shall not be allowed to come into contact with copper or copper alloys, either in the generator and storage vessels or in the pipes and fittings.

8.—The conditions under which the carbide of calcium may be stored are settled by the terms of the licence under the petroleum Acts, which will be required in each case.

As far as we are able to learn, the inspired paragraph is probably the work of an ordinary paragraph writer, who has fallen into one of the pitfalls which await journalists who write on subjects they have not studied or do not understand. Anyone acquainted with the subject knows that "dissolved acetylene" is merely a slightly compressed form of the gas, and has no possible advantage on the ground of safety over that generated and used at the usual atmospheric pressure. Dissolved

acetylene is manufactured somewhat after the following manner: A cylinder, such as that used for compressed oxygen, is filled with fragments of a porous substance, similar to pumice stone, which is saturated with acetone—a colourless liquid. Acetylene gas is afterwards pumped in at a pressure of two or three atmospheres; this is absorbed by the acetone, and the whole is much in the same condition as the contents of a bottle of soda water, from which the gas escapes when opened, in this case at a moderate pressure. Still, being compressed, however slightly, it is really more objectionable from the County Council point of view than the ordinary gas. It is useless for lantern purposes or for permanent lighting, and is far more expensive than the acetylene generated in the usual way. The only advantage that it possesses, in our opinion, seems to be its portability, and in this condition it is useful, and is intended for such purposes as lighting public vehicles—buses, trams, motor cars, etc., where it is inconvenient to carry a generator.

Masks *v.* Binders.

It might be difficult to support the case by argument, but a general concession of opinion has established the rectangular form for a lantern slide image, circles being admitted for nothing except especial conditions. A recent writer on the subject has said that the masking of lantern slides is a matter which requires very careful attention, and the commercial masks sold in assorted shapes are not of much use unless they are obtainable with square-cut corners. The cushion or dome shapes are very seldom used, as so few subjects are suitable to the shape. With lantern slides one quickly realises the benefit of trimming, as with a mask to go over the slide one naturally tries different shapes, and therefore notices the improvement obtained. Then there is the question of binders, concerning which the same writer says: "As regards binders, we prefer those having one side with a white space and two white spots. The spots should be placed on the cover-glass side, and the title of the subject written in the blank space. This will be found useful in the event of a stranger manipulating the lantern, as he will then know exactly how the slide is to go in the lantern. I remember attending a lecture when the lanternist, owing to the slides not being marked, placed a slide in the wrong way, and did so for quite half-a-dozen times without hitting upon the right way. Each attempt caused roars of laughter, which added to the confusion of the lanternist, and finally the lecturer had to come to the rescue."—*Daily Telegraph.*

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INTERESTING CORRESPONDENCE.

Letters of interest are always welcome, and should be written on one side of the paper, and addressed to the "Editor, OPTICAL LANTERN AND CINEMATOGRAPH JOURNAL, 9 & 11, Tottenham Street, W." They should be received by the 20th of the month.

WHAT IS AN OPERATOR?

SIR,—I note in your January issue a letter roughly passing a personal opinion on operators, but I also desire to call attention to the fact that, although there are a number of dud operators, there are many valuable men employed by concerns who could easily help to improve those alluded to. I would, however, first educate the showmen who require what they falsely term "expert operators." When a trained man applies for a position he either gets no reply or such absurd offers of salary that his modesty prevents him joining, and he thus gives way to a dud—a dangerous person both to employer and public. I here append what I think is really an expert operator;—A man who can photograph, develop, print, and project, with an exceptional experience of electricity and oxy-hydrogen work, and able to repair or make his own machines.—Yours, etc., EMILE LOUIS LAUSTE, 8, Benedict Road, Brixton, S.W.

CAN A READER OBLIGE?

Sir,—Will you please put the following two questions in THE OPTICAL LANTERN AND CINEMATOGRAPH JOURNAL, or answer them yourself, and oblige? "Can anyone give the name or how to make a lantern-slide flux that will enable a sepia or other colour to be used directly on the celluloid without varnishing to touch up holes or cracks in the film of the gelatine?" "What paint can be used to black out the blanks between sets of films that will not crack either on the gelatine or plain celluloid?" —Yours, etc., T. P. DORMAN.

A MEETING, TEN YEARS AGO.

Sir,—I recollect attending, some ten or more years ago, a meeting in London, at, I think, Anderton's Hotel, at which Mr. Ives, of Philadelphia, spoke on Colour Photography, and illustrated his remarks by some samples of his own work. At the same meeting, if I recollect aright, there was a trial of several oxy-hydrogen jets for lanterns. I am wondering whether any account of this meeting appeared in *The Optical Magic Lantern*?—Yours, etc., GRIFFITHS JONES, The County School, Penarth, Glamorgan.

[We have looked up our files and cannot trace the meeting referred to. Perhaps some of our readers can give the required information.—ED.]

OUR FRIENDS ABROAD.

THE JOURNAL IN HONG-KONG.

Sir,—I desire to subscribe to THE OPTICAL LANTERN AND CINEMATOGRAPH JOURNAL. I wish it addressed to myself, c/o Post Office, Hong Kong. Please let me know what the subscription will be. I wish it started from the 1st of the year.—Yours, etc., T. J. STEVENSON.

THE OPTICAL LANTERN JOURNAL IN BOMBAY.

Sir,—Being interested in the optical science, and importing such goods for the last three years from England and America, I wish to subscribe to your journal, and have remitted herewith a money order for 5s. as earnest money. I do not know the annual subscription, and will remit the remainder on hearing from you if it is more. If the OPTICAL LANTERN AND CINEMATOGRAPH JOURNAL is one and the same please send me the same, and if they are both different ones please send both of them, and please inform the annual subscription of each journal. —Yours, etc., GHANASHAM GANAPATDAS, Reviwarpeth No. 479, Poona City, Bombay, India.

ADVERTISERS—PLEASE NOTE!

DEAR SIRS,—Just a line to say my Advertisement has brought me purchasers for jet, saturator and regulator; and although offers were not quite up to my expectations, on the whole I am satisfied, and I beg to thank you.—Yours, etc., F. A. HOGBIN (REV.)., Baptist Church, Hinckley.

OTHERS—PLEASE COPY.

SIR,—I enclose herewith 3s. 3d., and request you kindly to send THE OPTICAL LANTERN AND CINEMATOGRAPH JOURNAL for the 1st December last year and the whole of this year. I wish you all success that your valuable and interesting journal merits. I have done all that I can to make your journal known in interested quarters here.—Yours, etc., KARL ROSSANDER, Forenings-banken, Helsingfors, Finland.

THE JOURNAL IN AMERICA.

SIR.—In forwarding a subscription to your journal, it may interest you to know that the series of articles condemning the ignorant operator, and suggesting a qualifying examination, have given us food for thought over here. We suffer very much in the same manner as our English confreres, and, although we do not possess a magazine of our own to ventilate the matter, we are putting our heads together in the hope that something may be done to benefit the most deserving among us.—Yours, etc., MARK HARRIS, 526, Fourth Avenue, New York.

Stereoscopic Notes.

CONDUCTED BY THEODORE BROWN.

Stereoscopic Slides and Education.

Stereographs are invaluable in the pursuit of any study that is simplified and clarified by realistic reproduction. Their vitalizing and vivifying influence in general education must not be overlooked. Messrs. Underwood & Underwood, of 3, Heddon Street, Regent Street, have added another volume to their already popular series of hand books, entitled "Through the Stereoscope," the present being "Egypt through the Stereoscope," by James Henry Breasted, Ph. D. The volume contains 360 pages, and is supplemented with 100 stereoscopic photographs and 20 maps, showing at a glance the exact view point from whence each picture was taken.

The United Stereoscopic Society

Have recently held a competition of stereoscopic slides. The judging was carried out by members of the society (by form of vote). The following is a list of awards:—Silver medal, H. Bradshaw, "Portrait of a girl"; bronze medal, Victor Selb, "Florentine Minstrels"; highly com., F. Low, "The Climbers"; bronze medal, A. J. Snow, "A November Morn"; bronze medal, J. Cole, "In ye Old Monks' Days"; highly com., Victor Selb, "Palace," Paris. Officers of the Society:—President, Theodore Brown; vice-president, Victor Selb. Committee:—Messrs. J. C. Dancer, E. Turner, J. Cole, and W. Pugsley. Hon. Secretary, A. J. Snow, 74, Lloyd Road, Walthamstow, E. We are pleased to note that some of the winning prints in the *Photographic News* monthly competition (Stereoscopic Work) were by members of the above Society. Mr. Fortune's "Young Wrens" is an excellent example, showing the advantage gained in natural history subjects, when the same are treated stereoscopically.

Obtaining Large Stereoscopic Views without Exaggerated Relief.

The fact that stereoscopic pictures are limited in size, by reason of a definite separation of the pupilars centres of the eyes, has apparently rendered it impossible to obtain pictures direct from the subject larger than about 3 inches in width. The accompanying diagram (Fig. 1), however, shows how the difficulty of overlapping of larger pictures may be surmounted. Let *a b* represent the normal separation of the eyes, or lenses of a stereoscopic camera. The right hand image *e f* is received through the lens direct, whilst the left hand image *c d* is first transmitted by the lens *a*, and is then deflected by the prism *g*. A stereoscope of similar construction may be used for the examination of these large stereograms; or mirrors, or prisms may be arranged as shown in Fig. 2, in which the eyes of the observer are indicated at *r l*, the mirrors at *a b c d*, and the large pictures at *e f*. The advantage of obtaining large pictures direct from nature, is that there is no loss of definition, as is the case where enlargements are made from standard size stereograms. A single pair of mirrors, such for instance as shown at *c d*, will answer the same purpose providing the outside one *d* is turned a little more obliquely.

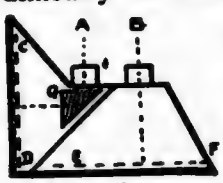

FIG. 1.—

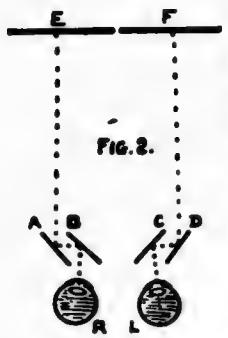

FIG. 2.

Stereoscopic Microscopes.

The purpose of the binocular microscope is to give a stereoscopic view of objects, whereby the form, distance and position of their various parts are simultaneously seen.

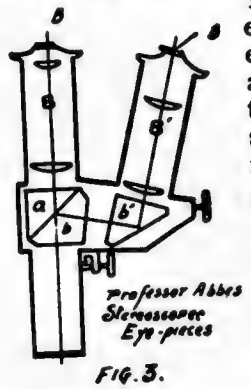

FIG. 3.

To produce a stereoscopic effect there must be an equal division of the rays after they have passed through the object glass, so that each eye may be furnished with an appropriate one-sided view of the object; but the methods hitherto contrived to effect this not only materially injured the definition of the object glasses, but also required extensive alterations in their adaptation; whereas the arrangement contrived by Mr. Wenham is no obstacle to the use of the monocular instrument. Nachet, of Paris, has throughout endeavoured to vie with Wenham, and he substituted a double eye-piece for the binocular body. This idea was improved upon by Tollas, of Boston, U.S., and more recently it has received some improvements from Professor Abbe. We give a diagramical view of Abbe's arrangement in Fig. 3. It consists of three prisms of crown glass, *a*, *b* and *b'* placed below the field glass of the two eye-pieces; the tube *c* is slipped into the tube or body like an ordinary eye-piece. The two prisms *a* and *b* are united, so as to form a thick plate with parallel sides, inclined to the axis at an angle of 38·5 degrees. The cone of rays is thus divided into two parts, one being transmitted and the other reflected. The special feature of the instrument is an ingenious arrangement for halving the cones of rays above the eye-pieces, where, by simply turning the caps with the diaphragms pseudoscopic or orthoscopic effects can be instantly produced. The most important improvement by Wenham consists of splitting up the pencils of rays proceeding from the objective by the interposition of a prism of the form shown in Fig. 4. This prism is placed in the body or tube of the microscope, so as to interrupt only one half of the pencils, the other half going on to the field-glass, eye-piece, of the principal body.

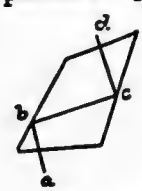
FIG 4.

FIG. 5.

Stephenson's Method of Stereo-Photo-Microscopy.

A simple method of taking stereoscopic photographs was described by Mr. E. R. Turner in the *Annual of Microscopy* for 1900. The stand used was one of the old fashioned bar microscopes, the body tube being removed, and in place of it was fitted a pair of Stephenson's binocular prisms in a small tube to which the objective was fitted; thus the course adjustment was retained, and this is all that is required with low powers. Fig 6 shows a section of the apparatus with the camera, which is divided by a diaphragm throughout its whole length. The path of the rays from the objective is shown in Fig 7. As the prisms are reversing prisms, transpositions of the images obtained is avoided in after work. Druner has also contributed a stereoscopic camera for taking microscopic objects, a full and illustrated description will be found in *The Book of Photography*, published by Cassell & Co.

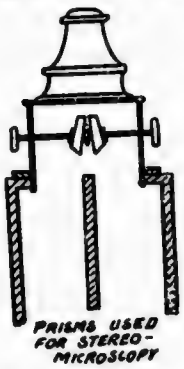

FIG. 6

FIG. 7.

Nottingham

Is favoured with another visit from Mr. Walter Jeff, who lays claim to the largest collection of animated photography shown by any exhibitor. Good audiences are the order of the day.

Manchester.

The New Century Company, at the Free Trade Hall, are obtaining good houses, who speak in high terms of "Hunting the Whale," "Two Little Waifs," "Rescued by Rover," and "The Horse Stealer."

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Have had a busy time during the elections with their series of political subjects, some thousands of slides having been used with considerable effect by both political parties. This firm are just completing a new series of seascapes and land views which should prove very attractive, as the colouring and general effects combine to make the pictures very pleasing to the eye, and a distinct advance upon previous attempts with this class of slide.

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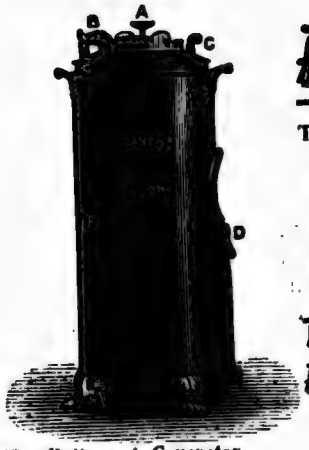

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— PATENT. —

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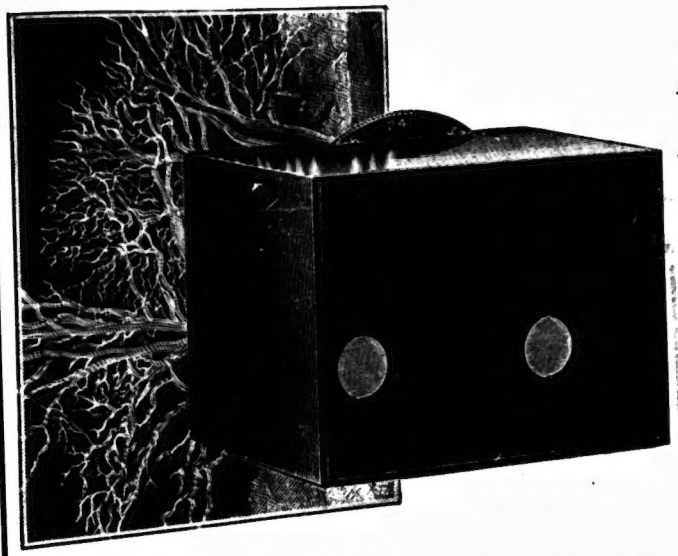

THE need of some simple and reliable method of ascertaining the exposure required when printing on Bromide Paper and Opals, making Lantern Slides or Enlargements, has been keenly felt by all Photographers, the present method of trial exposures on pieces of paper being very unsatisfactory, so much experience being required before one can judge from the appearance of a small portion of a print what will be the effect when the whole has been printed with the same exposure; in addition, it is so very slow and expensive, more time and often more material being wasted before securing one good print than would suffice for one dozen prints if the exposure had been correctly known beforehand.

Every factor other than this of the density and consequent exposure may be considered as stable quantities, light can be uniformly and repeatedly used from a candle to an arc lamp, sensitised surfaces can be had from time to time of the same rapidity, and the developer can be compounded and used with certainty—*thus if the density of the negative can be satisfactorily dealt with, the difficulty of producing bromide and like prints quickly and successfully is at once overcome.*

In the hope of solving this problem and of making it possible for everyone to produce pictures with ease, by the process in which hitherto it has been the privilege of only a few to succeed, the apparatus known as the "Densitometer" has been invented. By its use the difficulty of estimating the density of any negative becomes at once a most simple operation; every negative can be classified in a few seconds and marked with its density number, and by referring to the table of exposures supplied with each instrument, prints can be made at once, the first print being often better than would be produced after a large number of trials by the old method.

The principle involved in its construction is that of the proportional values of the apertures in the stops of a lens which is well understood and in constant use by every photographer. As applied in the "Densitometer," light is allowed to pass through a portion of the negative to illuminate a screen; it is obvious that the amount of such illumination will be inversely proportional to the density of the negative. A second screen is illuminated by light from the same source, which passes through an aperture which can be adjusted until its illumination is the same as that of the negative screen. When the two are seen to be illuminated to the same intensity the area of the aperture will correspond to the relative density of the negative.

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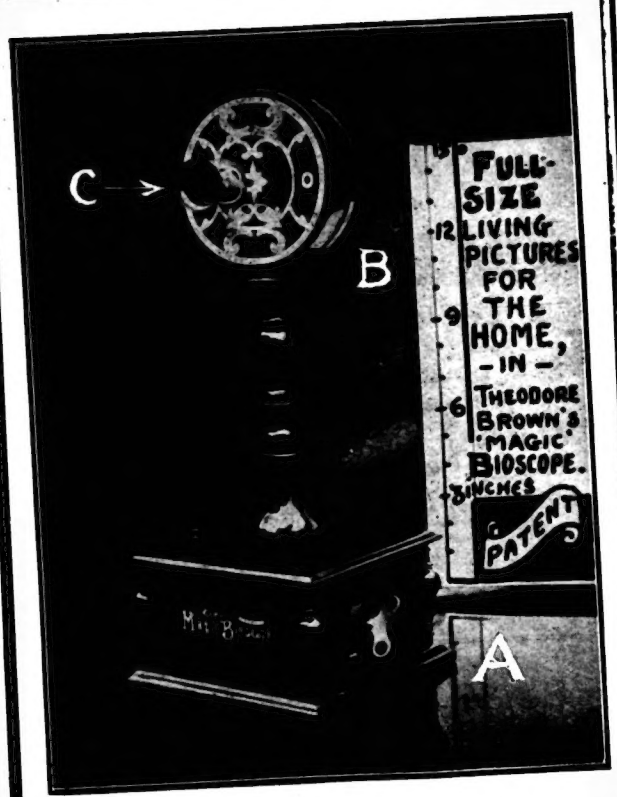

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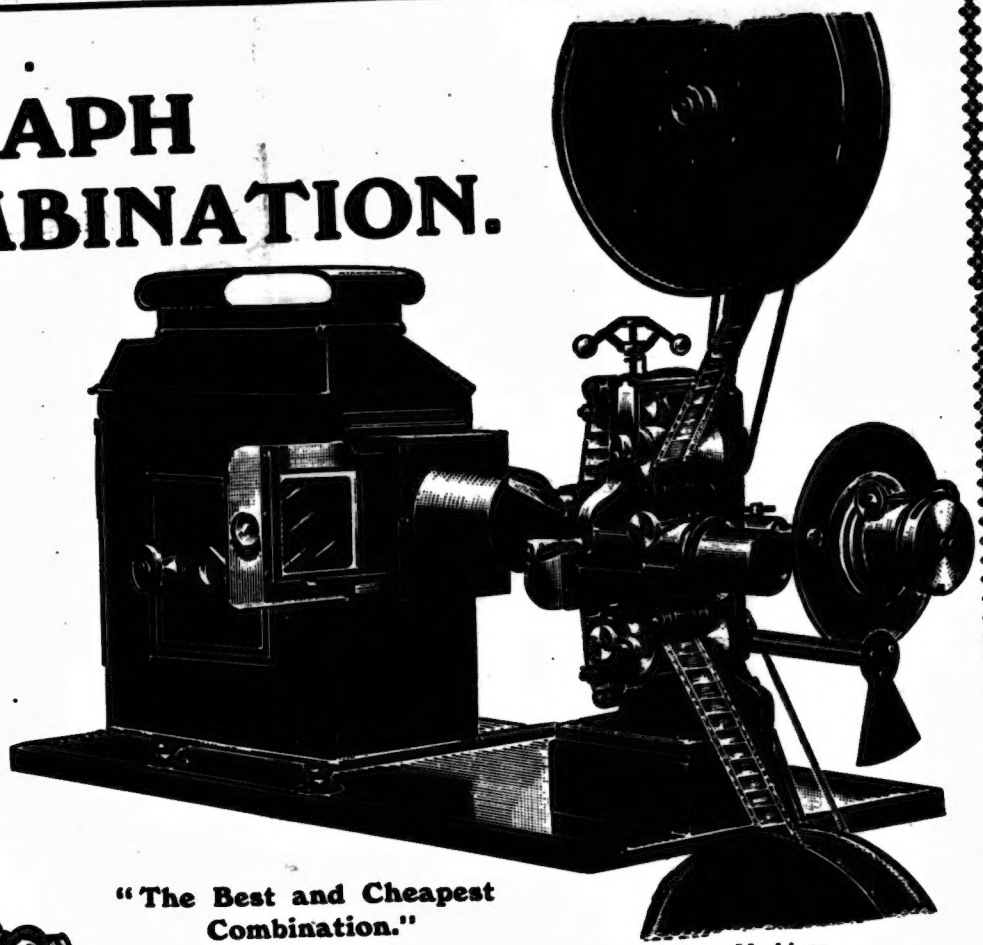

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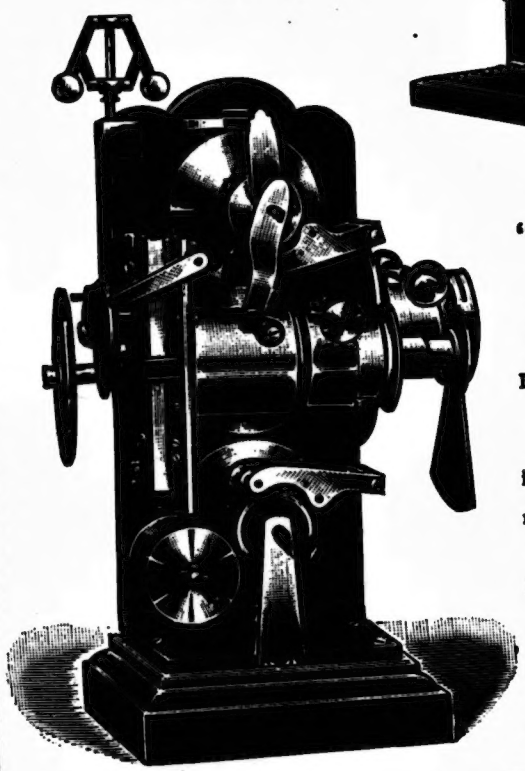

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